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| Breakout 2: Building Learning Goals and Consolidation Questions | | Grade 3-6 |
| 75 min | Math Learning Goals   * I will develop a better understanding of appropriate learning goals for algebraic thinking. * I will create consolidation questions for algebraic thinking that reflect a specific learning goal. | Materials   * Growing Success document * Learning goal strips * Copy of problem from Guide to Effective Instruction * Pattern cards * Prompts for facilitators |
|  | 🡪  Nottawasaga and Kempenfelt  Share the following information from Growing Success using an “auditory Wordle” strategy:  *Developing Learning Goals*  *Assessment for learning and as learning requires that students and teachers share a common understanding of what is being learned. Learning goals clearly identify what students are expected to know and be able to do, in language that students can readily understand. Teachers develop learning goals based on the curriculum expectations and share them with students at or near the beginning of a cycle of learning. Teachers and students come to a common understanding of the learning goals through discussion and clarification during instruction.*  What would Cathy and Ruth’s learning goals have been for us as adults during their plenaries?  What should the learning goals for algebraic thinking be in a grade 3-6 classroom? Think-pair-share with grade level partner using the curriculum document, then match up with another pair from a subsequent grade and “square” – compare your learning goals between grades. How are they similar? What differences do you see? Is the curriculum supportive of the development of algebraic thinking? Debrief as a whole group. | Differentiated by Learning Style  Professional  dialogue   * *Assessment* ***as*** *learning*  (reflection) |
| Minds On… |
| 20 minutes |
|  | 🡪  Nottawasaga and Kempenfelt  Participants arrange themselves into partners using cards matching an algebraic pattern rule and a set of ordered pairs.  With their partner, participants solve the following problem from the Guides to Effective Instruction: Patterning and Algebra (reference page 72 – see appendix at end of template – copy of whole problem to go on memory stick). Share the graphing link from the Guide on ppt.  Participants will receive a set of 7-10 learning goals. With their partner, discuss which learning goal or goals they believe were the focus of this lesson, based on the question and the prompts by the facilitators. (eg. Possible learning goals might be: I can represent growing patterns using concrete materials. I can represent growing patterns using graphs. I can use patterns to help me to extend a pattern. I can use patterns to help me to predict. I can make connections among representations.)  Brainstorm consolidation questions to support student learning based on the task they have just worked on. | * *Assessment* ***as*** *learning*  (reflection) |
| Action! |
| 25 minutes |
|  | 🡪  Nottawasaga and Kempenfelt  Participants will find a grade level partner.  Look at student samples of the Pine Tree problem (student samples from Ruth). Groups each get different samples of student work. Look at the sample through the lens of learning goals and consolidation questions: What were the learning goals for this problem – based on all of the questions on the sheet – and looking at your student work, what questions would you ask the student to help to consolidate their learning?  Whole group sharing. | * *Assessment* ***as*** *learning*  (reflection) |
| Consolidate Debrief |
| 20 minutes |
| 10 minutes | Home Activity or Further Classroom Consolidation  Reflect on this quote:  There are two types of fisherman - those who fish for sport and those who fish for fish.  ~Author Unknown  On your fish, write something that you think you need to keep in mind to engage students in algebraic thinking and problem solving.  While you are thinking, create a small “gimp” weaving to go on your fishing hat. |  |

